

What is claimed is:

1. A binary mask comprising: a quartz substrate; and a chrome pattern on the quartz substrate, wherein the quartz substrate includes at least one etch at a location at which the chrome pattern is not.
2. A binary mask as recited in claim 1, wherein said at least one etch has a depth which corresponds to a phase shift of 180 degrees.
3. A binary mask as recited in claim 1, wherein the quartz substrate includes an etched pattern thereon.
4. A binary mask as recited in claim 3, wherein the etched pattern is located where the chrome pattern is not on the quartz substrate.
5. A binary mask as recited in claim 1, wherein the at least one etch is sloped to enhance phase edge darkening effects.
6. A binary mask as recited in claim 2, wherein the at least one etch is sloped to enhance phase edge darkening effects.
7. A binary mask as recited in claim 3, wherein the etched pattern is sloped to enhance phase edge darkening effects.
8. A binary mask as recited in claim 3, wherein the at least one etch has a depth which is selected such that the mask can be exposed with a given wavelength of exposure system.
9. A method of manufacturing a binary mask, said method comprising: providing a quartz substrate having a chrome pattern thereon; and etching the quartz substrate.

10. A method as recited in claim 9, wherein the step of etching the quartz substrate comprises etching at a depth which corresponds to a phase shift of 180 degrees.
11. A method as recited in claim 9, wherein the step of etching the quartz substrate comprises etching a pattern into the quartz substrate.
12. A method as recited in claim 9, wherein the step of etching the quartz substrate comprises etching where the chrome pattern is not on the quartz substrate.
13. A method as recited in claim 9, wherein the step of providing a quartz substrate having a chrome pattern thereon comprises coating a blank mask/resist onto a substrate of chrome and quartz, writing and developing a pattern into the chrome, and etching the chrome.
14. A method as recited in claim 9, wherein the step of etching the quartz substrate comprises etching a slope to enhance phase edge darkening effects.
15. A method as recited in claim 9, wherein the step of etching the quartz substrate comprises etching a slope to enhance phase edge darkening effects.
16. A method as recited in claim 11, wherein the step of etching the quartz substrate comprises etching a slope to enhance phase edge darkening effects.
17. A method as recited in claim 12, wherein the step of etching the quartz substrate comprises etching a slope to enhance phase edge darkening effects.
18. A method as recited in claim 14, wherein the step of etching the quartz substrate comprises etching a slope to enhance phase edge darkening effects.

19. A method as recited in claim 9, wherein the step of etching comprises etching to a depth which provides that the mask can be effectively exposed with a given wavelength of exposure system.